

ABSTRACT

An apparatus for rapid hybridization of molecules and its methods of use is provided. The apparatus generates cyclical electric fields for electrically moving molecules to specifically enhance the binding efficiency of the molecules with other molecules. The apparatus
5 includes an electrode pair that is in direct contact with a buffer, which includes the molecules. The electrodes and/or a lid could be used to vent generated gases. A temperature controlling means could be used to control the temperature of the buffer. The apparatus is amenable to use with a wide variety of microarrays making it cost-effective.